

United States Department of Agriculture Natural Resources Conservation Service

Ecological Site Description

Site Type: Rangeland

Site Name: Clayey (Cy), 15-19" P.Z., Foothills and Mountains West

Site ID: R043BY204WY

Major Land Resource Area: 43B-Central Rocky Mountains

Physiographic Features

This site is found in valley bottoms and on gently sloping to steep mountain slopes. It is found on all exposures with a tendency toward north and east slopes at lower elevations

Landform: hill sides, alluvial fans & stream terraces

Aspect: all

	<u>Minimum</u>	<u>Maximum</u>
Elevation (feet):	5600	8300
Slope (percent):	0	60
Water Table Depth (inches):	none within 60 inches	
Flooding:		
Frequency:	none	none
Duration:	none	none
Ponding:		
Depth (inches):	0	0
Frequency:	none	none
Duration:	none	none
Runoff Class:	low	moderate

Climatic Features

Annual precipitation ranges from 15-19 inches per year. Wide fluctuations may occur in yearly precipitation and result in more dry years than those with more than normal precipitation.

Temperatures show a wide range between summer and winter and between daily maximums and minimums. This is predominantly due to the high elevation and dry air, which permits rapid incoming and outgoing radiation. Cold air outbreaks in winter move rapidly from northwest to southeast and account for extreme minimum temperatures. Extreme storms may occur during the winter, but most severely affect ranch operations during late winter and spring.

Prevailing winds are from the southwest, and strong winds are less frequent than over other areas of Wyoming. Occasional storms, however, can bring brief periods of high winds with gusts exceeding 50 mph.

Growth of native cool season plants begins about May 15 and continues to about August 15.

The following information is from the "Jackson" climate station:

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MLRA: 43B-Central Rocky Mountains

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	<u>Minimum</u>	<u>Maximum</u>	<u>5 yrs. out of 10 between</u>
Frost-free period (days):	12	60	July 9 – August 12
Freeze-free period (days):	42	100	June 20 – August 26

Annual Precipitation (inches): <11.98 >19.69 (2 years in 10)

Mean annual precipitation: 17.00 inches

Mean annual air temperature: 38.9°F (23.3°F Avg. Min. to 54.5°F Avg. Max.)

For detailed information visit the Natural Resources Conservation Service National Water and Climate Center at <http://www.wcc.nrcs.usda.gov/cgibin/state.pl?state=wy> website. Other climate stations representative of this precipitation zone include "Afton" in Lincoln County; and "Darwin Ranch" in Teton County.

Influencing Water Features

<u>Wetland Description:</u>	<u>System</u>	<u>Subsystem</u>	<u>Class</u>	<u>Sub-class</u>
None	None	None	None	None

Stream Type: None

Representative Soil Features

These are moderately deep (greater than 20" to bedrock) to very deep, well drained soils with textures ranging from clay and silty clay through the finer silty and sandy clay loams. Soil cracking (not severe) occurs during the dry summer months especially where the plant cover has been reduced. Root penetration is somewhat restricted due to the fine textures and reduced depth of moisture penetration. Water holding capacity is high, but the surface intake is restricted which causes runoff and reduces effectiveness of precipitation.

Major Soil Series correlated to this site include: Glassner and phases of the Heath series.

Parent Material Kind: alluvium , residuum, and lacustrine

Parent Material Origin: sedimentary

Surface Texture: loam, clay loam, silty clay loam

Surface Texture Modifier: none

Subsurface Texture Group: clay loam, clay, silty clay

Surface Fragments ≤ 3" (% Cover): 0-5

Surface Fragments >3" (%Cover): 0

Subsurface Fragments ≤ 3" (% Volume): 0-10

Subsurface Fragments > 3" (% Volume): 0

	<u>Minimum</u>	<u>Maximum</u>
Drainage Class:	well	well
Permeability Class:	very slow	moderately slow
Depth (inches):	20	>60
Electrical Conductivity (mmhos/cm) ≤20":	4	16
Sodium Absorption Ratio ≤20":	0	10
Soil Reaction (1:1 Water) ≤20":	7.4	9
Soil Reaction (0.1M CaCl2) ≤20":	NA	NA

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Available Water Capacity (inches) $\leq 30''$:	3	6
Calcium Carbonate Equivalent (percent) $\leq 20''$:	5	15

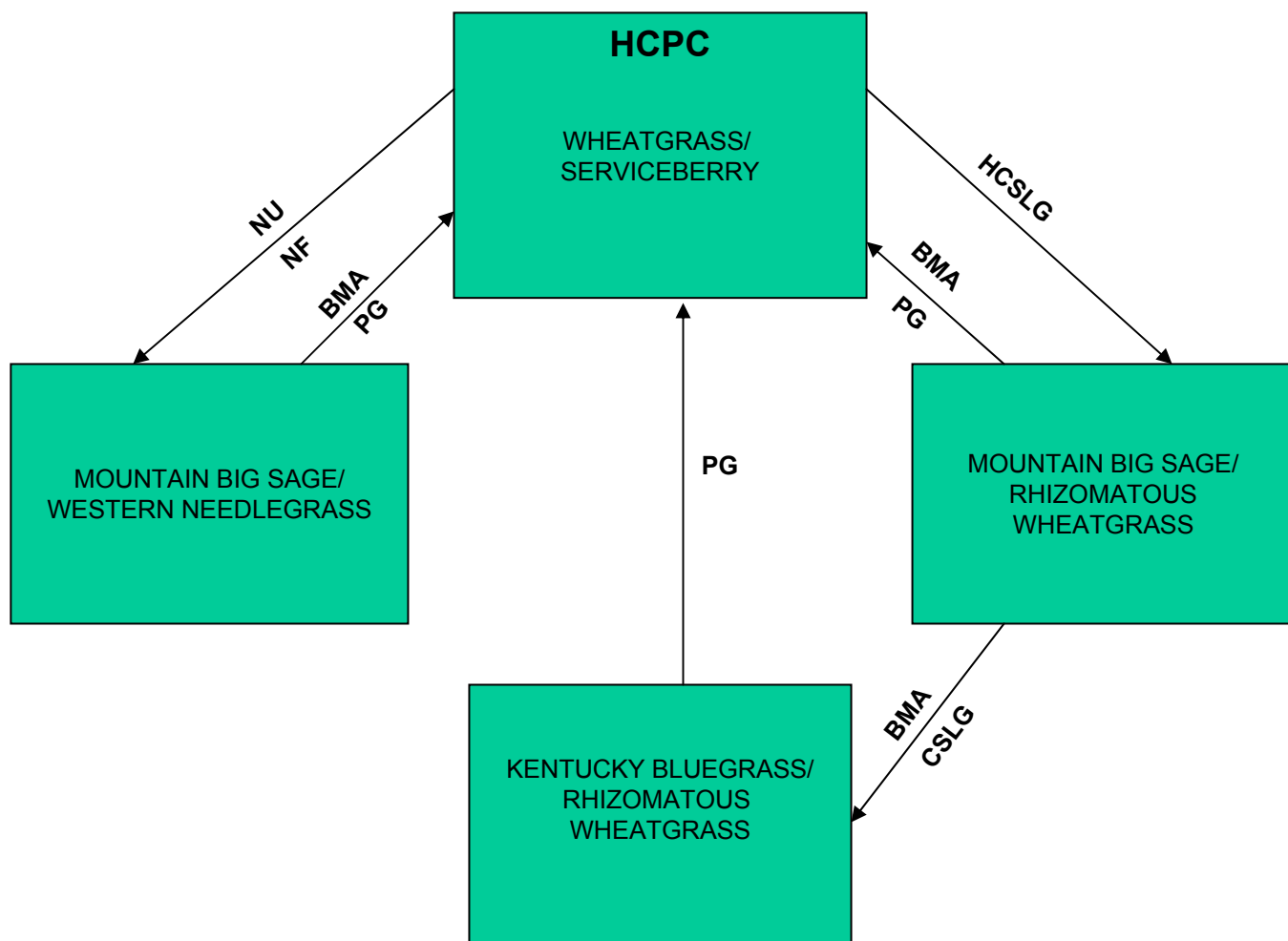
Plant Communities

Ecological Dynamics of the Site:

As this site deteriorates because of a combination of frequent and severe grazing, species such as rhizomatous wheatgrasses, Idaho fescue, Letterman needlegrass, Sandberg bluegrass, mountain big sagebrush, snowberry, and green rabbitbrush will increase. Bluebunch wheatgrass, western needlegrass, slender wheatgrass, serviceberry, and mountain brome will decrease in frequency and production.

The Historic Climax Plant Community (description follows the plant community diagram) has been determined by study of rangeland relic areas, or areas protected from excessive disturbance. Trends in plant communities going from heavily grazed areas to lightly grazed areas, seasonal use pastures, and historical accounts have also been used.

The following is a State and Transition Model Diagram that illustrates the common plant communities (states) that can occur on the site and the transitions between these communities. The ecological processes will be discussed in more detail in the plant community narratives following the diagram.



BMA – Brush Management (all methods)
 BMC – Brush Management (chemical)
 BMF – Brush Management (fire)
 BMM – Brush Management (mechanical)
 CSP – Chemical Seedbed Preparation
 CSLG – Continuous Season-long Grazing
 DR – Drainage
 CSG – Continuous Spring Grazing
 HB – Heavy Browse
 HCSLG – Heavy Continuous Season-long Grazing
 HI – Heavy Inundation
 LPG – Long-term Prescribed Grazing
 MT – Mechanical Treatment (chiseling, ripping, pitting)

NF – No Fire
 NS – Natural Succession
 NWC – Noxious Weed Control
 NWI – Noxious Weed Invasion
 NU – Nonuse
 P&C – Plow & Crop (including hay)
 PG – Prescribed Grazing
 RPT – Re-plant Trees
 RS – Re-seed
 SGD – Severe Ground Disturbance
 SHC – Severe Hoof Compaction
 WD – Wildlife Damage (Beaver)
 WF – Wildfire

Plant Community Composition and Group Annual Production
Reference Plant Community (HCPC)

COMMON NAME/GROUP NAME	SCIENTIFIC NAME	SYMBOL	Annual Production (Normal Year)		
			Total: 1800		
			Group	lbs./acre	% Comp.
GRASSES AND GRASS-LIKES					
GRASSES/GRASSLIKES					
Rhizomatous wheatgrasses			1	180 - 450	10 - 25
western wheatgrass	Pascopyrum smithii	PASM	1	180 - 450	10 - 25
thickspike wheatgrass	Elymus lanceolatus ssp. lanceolatus	ELLAL	1	180 - 450	10 - 25
bluebunch wheatgrass	Pseudoroegneria spicata	PSSP6	2	180 - 360	10 - 20
western needlegrass	Achnatherum occidentale	ACOC3	3	180 - 360	10 - 20
mountain brome	Bromus marginatus	BRMA4	4	90 - 180	5 - 10
slender wheatgrass	Elymus trachycaulis	ELTR7	5	90 - 180	5 - 10
Spike fescue	Leucopoa kingii	LEKI2	6	90 - 180	5 - 10
MISC. GRASSES/GRASSLIKES					
basin wildrye	Leymus cinereus	LECI4	7	0 - 90	0 - 5
big bluegrass	Poa ampla (syn. P. secunda)	POAM (POSE)	7	0 - 90	0 - 5
blue wildrye	Elymus glaucus	ELGL	7	0 - 90	0 - 5
bottlebrush squirreltail	Elymus elymoides	ELEL5	7	0 - 90	0 - 5
California oatgrass	Danthonia californica	DACA3	7	0 - 90	0 - 5
Canby bluegrass	Poa canbyi (syn. P. secunda)	POCA (POSE)	7	0 - 90	0 - 5
Columbia needlegrass	Achnatherum nelsonii	ACNE9	7	0 - 90	0 - 5
Idaho fescue	Festuca idahoensis	FEID	7	0 - 90	0 - 5
Letterman needlegrass	Achnatherum lettermanii	ACLE9	7	0 - 90	0 - 5
mutton bluegrass	Poa fendleriana	POFE	7	0 - 90	0 - 5
nodding brome	Bromus porteri	BRPO2	7	0 - 90	0 - 5
oniongrass	Melica bulbosa	MEBU	7	0 - 90	0 - 5
prairie junegrass	Koeleria macrantha	KOMA	7	0 - 90	0 - 5
Sandberg bluegrass	Poa secunda	POSE	7	0 - 90	0 - 5
sun sedge	Carex inops ssp. heliophila	CAINH2	7	0 - 90	0 - 5
timber oatgrass	Danthonia intermedia	DAIN	7	0 - 90	0 - 5
other perennial grasses (native)		2GP	7	0 - 90	0 - 5
FORBS					
mountain dandelion	Agoseris spp.	AGOSE	8	0 - 90	0 - 5
American vetch	Vicia americana	VIAM	8	0 - 90	0 - 5
arrowleaf balsamroot	Balsamorhiza sagittata	BASA3	8	0 - 90	0 - 5
aster	Eucephalus spp.	EUCEP2	8	0 - 90	0 - 5
biscuitroot	Lomatium spp.	LOMAT	8	0 - 90	0 - 5
bluebell	Mertensia spp.	MERTE	8	0 - 90	0 - 5
buckwheat	Eriogonum spp.	ERIOG	8	0 - 90	0 - 5
buttercup	Ranunculus spp.	RANUN	8	0 - 90	0 - 5
clover	Trifolium spp.	TRIFO	8	0 - 90	0 - 5
fleabane	Erigeron spp.	ERIGE2	8	0 - 90	0 - 5
geranium	Geranium spp.	GERAN	8	0 - 90	0 - 5
groundsel	Packera spp.	PACKE	8	0 - 90	0 - 5
hawksbeard	Crepis spp.	CREPI	8	0 - 90	0 - 5
larkspur	Delphinium spp.	DELPH	8	0 - 90	0 - 5
little sunflower	Helianthus pumilus	HEPU3	8	0 - 90	0 - 5
lupine	Lupinus spp.	LUPIN	8	0 - 90	0 - 5
meadow-rue	Thalictrum occidentale	THOC	8	0 - 90	0 - 5
milkvetch	Astragalus spp.	ASTRA	8	0 - 90	0 - 5
mule-ears	Wyethia amplexicaulis	WYAM	8	0 - 90	0 - 5
Oregon grape	Mahonia repens	MARE11	8	0 - 90	0 - 5
paintbrush	Castilleja spp.	CAST	8	0 - 90	0 - 5
peavine	Lathyrus spp.	LATHY	8	0 - 90	0 - 5
penstemon	Penstemon spp.	PENST	8	0 - 90	0 - 5
phlox	Phlox spp.	PHLOX	8	0 - 90	0 - 5
pussytoes	Antennaria spp.	ANTEN	8	0 - 90	0 - 5
stonecrop	Sedum spp.	SEDUM	8	0 - 90	0 - 5
stone seed	Lithospermum spp.	LITHO3	8	0 - 90	0 - 5
violet	Viola spp.	VIOLA	8	0 - 90	0 - 5
wild onion	Allium spp.	ALLI4	8	0 - 90	0 - 5
yarrow (common & western)	Achillea millefolium	ACMI2	8	0 - 90	0 - 5
yellow sneezeweed	Helenium autumnale	HEAU	8	0 - 90	0 - 5
other perennial forbs (native)		2FP	8	0 - 90	0 - 5
TREES/SHRUBS					
serviceberry	Amelanchier alnifolia	AMAL2	9	90 - 180	5 - 10
MISC. SHRUBS					
big sagebrush	Artemisia tridentata	ARTR2	10	0 - 90	0 - 5
green rabbitbrush	Chrysothamnus viscidiflorus	CHVI8	10	0 - 90	0 - 5
low sagebrush	Artemisia arbuscula ssp. arbuscula	ARAR8	10	0 - 90	0 - 5
western snowberry	Symphoricarpos occidentalis	SYOC	10	0 - 90	0 - 5

This list of plants and their relative proportions are based on near normal years. Fluctuations in species composition and relative production may change from year to year dependent upon precipitation or other climatic factors.

Plant Community Narratives

Following are the narratives for each of the described plant communities. These plant communities may not represent every possibility, but they probably are the most prevalent and repeatable plant communities. The plant composition tables shown above have been developed from the best available knowledge at the time of this revision. As more data is collected, some of these plant communities may be revised or removed, and new ones may be added. None of these plant communities should necessarily be thought of as “Desired Plant Communities”. According to the USDA NRCS National Range and Pasture Handbook, Desired Plant Communities (DPC’s) will be determined by the decision-makers and will meet minimum quality criteria established by the NRCS. The main purpose for including any description of a plant community here is to capture the current knowledge and experience at the time of this revision.

Wheatgrass/Serviceberry Plant Community (HCPC)

The interpretive plant community for this site is the Historic Climax Plant Community. This state evolved with grazing by large herbivores and is suited for grazing by domestic livestock. Potential vegetation is estimated at 75% grasses or grass-like plants, 15% forbs and 10% woody plants. The major grasses include bluebunch wheatgrass, western needlegrass, mountain brome, slender wheatgrass, and rhizomatous wheatgrass. Other grasses and grass-like plants may include basin and blue wildrye, mutton, Canby, and big bluegrass, California and timber oatgrass, prairie junegrass, oniongrass, sun sedge, Idaho fescue, bottlebrush squirreltail, and Letterman and Columbia needlegrass. Serviceberry is the major woody plant. Other woody plants that may occur include mountain big and low sagebrush, green rabbitbrush, and snowberry.

A typical plant composition for this state consists of rhizomatous wheatgrasses 10-25%, bluebunch wheatgrass 10-20%, western needlegrass 10-20%, mountain brome 5-10%, slender wheatgrass 5-10%, other grasses and grass-like plants 10-20%, perennial forbs 5-15%, serviceberry 5-10%, and up to 5% other woody species. Ground cover, by ocular estimate, varies from 60-65%.

The total annual production (air-dry weight) of this state is about 1800 pounds per acre, but it can range from about 1200 lbs./acre in unfavorable years to about 2200 lbs./acre in above average years.

The following is the growth curve of this plant community expected during a normal year:

Growth curve number: WY0201

Growth curve name: 15-19W, UPLAND SITES

Growth curve description: ALL UPLAND SITES

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	0	0	0	10	35	30	20	5	0	0	0

(Monthly percentages of total annual growth)

The state is stable and well adapted to the Central Rocky Mountains climatic conditions. The diversity in plant species allow for high drought resistance. This is a sustainable plant community (site/soil stability, watershed function, and biologic integrity).

Transitions or pathways leading to other plant communities are as follows:

- Nonuse and No Fire will convert this plant community to the *Mountain Big Sage/Western Needlegrass State*.
- Heavy Continuous Season-long Grazing will convert this plant community to the *Mountain Big Sage/Rhizomatous Wheatgrass State*.

Mountain Big Sage/Western Needlegrass Plant Community

This plant community is the result of protection from grazing and fire. Mountain big sagebrush dominates with annual production often exceeding 25%, and herbaceous forage production is decreased. The understory of grass includes western needlegrass, bluebunch wheatgrass, mountain brome, slender and rhizomatous wheatgrass, blue wildrye and big bluegrass.

The total annual production (air-dry weight) of this state is about 1400 pounds per acre, but it can range from about 1000 lbs./acre in unfavorable years to about 2000 lbs./acre in above average years.

The following is the growth curve of this plant community expected during a normal year:

Growth curve number: WY0201

Growth curve name: 15-19W, UPLAND SITES

Growth curve description: ALL UPLAND SITES

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	0	0	0	10	35	30	20	5	0	0	0

(Monthly percentages of total annual growth)

The state is stable and protected from excessive erosion. The biotic integrity of this plant community is usually intact, however forage value will decrease and wildlife values will shift toward different species. The watershed is functioning, but dominating shrubs utilize a large amount of water.

Transitional pathways leading to other plant communities are as follows:

- Brush Management followed by deferment for 1 to 2 years as part of a Prescribed Grazing plan will return this state to near *Historic Climax Plant Community (Wheatgrass/Serviceberry State)*. Care should be taken when planning brush management to consider wildlife habitat and critical winter ranges.

Mountain Big Sage/Rhizomatous Wheatgrass Plant Community

This plant community is the result of improper grazing management practices. Mountain big sagebrush dominates with annual production often exceeding 30%. There is a large amount of bare ground between sagebrush plants with an understory of grass and forbs limited to the protected areas under shrubs. The major grasses include Sandberg and mutton bluegrass, Letterman needlegrass, and rhizomatous wheatgrass.

The total annual production (air-dry weight) of this state is about 800 pounds per acre, but it can range from about 400 lbs./acre in unfavorable years to about 1200 lbs./acre in above average years.

The following is the growth curve of this plant community expected during a normal year:

Growth curve number: WY0201

Growth curve name: 15-19W, UPLAND SITES

Growth curve description: ALL UPLAND SITES

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	0	0	0	10	35	30	20	5	0	0	0

(Monthly percentages of total annual growth)

Soil erosion is accelerated because of increased bare ground. The biotic community has been compromised, but is relatively stable. The watershed is functioning, but is at risk of further degradation. Water flow patterns and pedestals are obvious. Infiltration is reduced and runoff is increased.

Transitional pathways leading to other plant communities are as follows:

- Brush Management followed by Continuous Season-long Grazing will convert this plant community to the *Kentucky Bluegrass/Rhizomatous Wheatgrass State*.
- Brush Management followed by deferment for 1 to 2 years as part of a Prescribed Grazing plan will return this state to near *Historic Climax Plant Community (Wheatgrass/Serviceberry State)*. Care should be taken when planning brush management to consider wildlife habitat and critical winter ranges.

Kentucky Bluegrass/Rhizomatous Wheatgrass Plant Community

This plant community is the result of brush management followed by improper grazing techniques. Rhizomatous wheatgrass and Kentucky bluegrass are the dominant grasses. With sagebrush removed, green rabbitbrush will be the dominant shrub, often exceeding 10-20% of the annual production. Rhizomatous wheatgrasses, low growing bunchgrasses such as Letterman needlegrass and Sandberg bluegrass, and unpalatable annual and perennial forbs dominate the herbaceous understory. There is a substantial amount of bare ground.

The total annual production (air-dry weight) of this state is about 350 pounds per acre, but it can range from about 200 lbs./acre in unfavorable years to about 800 lbs./acre in above average years.

The following is the growth curve of this plant community expected during a normal year:

Growth curve number: WY0201

Growth curve name: 15-19W, UPLAND SITES

Growth curve description: ALL UPLAND SITES

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	0	0	0	10	35	30	20	5	0	0	0

(Monthly percentages of total annual growth)

The soil is not protected and erosion will increase if management is not changed. The biotic integrity may be reduced due to low vegetative production. The watershed is functioning at risk.

Transitional pathways leading to other plant communities are as follows:

- Long-term Prescribed Grazing will eventually return this plant community to near *Historic Climax Plant Community (Wheatgrass/Serviceberry State)*. Rest or deferment may be necessary and should be prescribed on an individual site basis.

Ecological Site Interpretations

Animal Community – Wildlife Interpretations

Wheatgrass/Serviceberry Plant Community (HCPC): Suitable thermal and escape cover for mule deer exists. Sagebrush, which can approach 15% protein and 40-60% digestibility, provides important winter forage for mule deer and elk. Year-round habitat is provided for many sagebrush obligate species such as the sage sparrow, Brewer's sparrow, sage thrasher, pygmy rabbit, sagebrush vole, horned lizard, and pronghorn antelope. Other birds that would frequent this plant community include horned larks and golden eagles.

Mountain Big Sage/Western Needlegrass Plant Community: This plant community may be useful for the same wildlife that would use the Historic Climax Plant Community.

Mountain Big Sage/Rhizomatous Wheatgrass Plant Community: This plant community may be beneficial for the same wildlife that would use the Historic Climax Plant Community. However, the

plant community composition is less diverse, and thus, less apt to meet the seasonal needs of these animals.

Kentucky Bluegrass/Rhizomatous Wheatgrass Plant Community: These communities provide limited forage for elk, antelope, and mule deer due to low production and lack of sagebrush.

Animal Preferences (Quarterly - 1,2,3,4) for commonly occurring plants in MLRA 43B, 15-19W

COMMON NAME/GROUP NAME	SCIENTIFIC NAME	SYMBOL	Cattle	Sheep	Horses	Mule Deer	Antelope	Elk	Moose
GRASSES/GRASSLIKES									
Alkali bluegrass	<i>Poa juncea</i> (syn. to <i>P. secunda</i>)	POJU	DDDD	PPPP	DDDD	PPPP	PPPP	DDDD	DDDD
Alkali muhly	<i>Muhlenbergia asperifolia</i>	MUAS	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Alkali sacaton	<i>Sporobolus airoides</i>	SPAI	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP	DDDD
Alpine timothy	<i>Phleum alpinum</i>	PHAL2	PPPP	PPPP	PPPP	DDDD	UUUU	PPPP	DDDD
American manna grass	<i>Glyceria grandis</i>	GLGR	DDDD	UUUU	DDDD	UUUU	UUUU	DDDD	DDDD
Baltic rush	<i>Juncus balticus</i>	JUBA	DDDD	UUUU	DDDD	UUUU	UUUU	DDDD	UUUU
Basin wildrye	<i>Leymus cinereus</i>	LEC4	PPPP	PPPP	PPPP	DDDD	DDDD	PPPP	DDDD
Beaked sedge	<i>Carex rostrata</i>	CAR06	DDUD	UUUU	DDUD	UUUU	UUUU	DDUD	DDUD
Bearded wheatgrass	<i>Elymus trachycaulus</i> ssp. <i>subsecundus</i>	ELTRS	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP	DDDD
Bentgrass	<i>Agrostis</i> spp.	AGROS2	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP	DDDD
Big bluegrass	<i>Poa ampla</i> (syn. to <i>Poa secunda</i>)	POAM	PPPP	DDDD	PPPP	PPPP	PPPP	PPPP	PPPP
Blue wildrye	<i>Elymus glaucus</i>	ELGL	PPPP	DDDD	PPPP	DDDD	UUUU	PPPP	DDDD
Bluebunch wheatgrass	<i>Pseudoroegneria spicata</i>	FSSP6	PPPP	PPPP	PPPP	DDDD	DDDD	PPPP	DDDD
Bluejoint reedgrass	<i>Calamagrostis canadensis</i>	CACA4	PPPP	DDDD	PPPP	UUUU	UUUU	PPPP	DDDD
Bottlebrush squirreltail	<i>Elymus elymoides</i>	ELELE	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	NNNN
Bulrush	<i>Scirpus</i> spp.	SCIRP	DDDD	UUUU	UUUU	UUUU	UUUU	DDDD	DDDD
California oatgrass	<i>Danthonia californica</i>	DACA3	PPPP	DDDD	DDDD	DDDD	DDDD	PPPP	DDDD
Canby bluegrass	<i>Poa canbyi</i> (syn. to <i>Poa secunda</i>)	POCA	PPPP	DPDD	DPDD	DPDD	DPDD	PPPP	DPDD
Cattail	<i>Typha</i> spp.	TYPHA	DUUD	DUUD	DUUD	DUUD	DUUD	DUUD	DUUD
Columnia needlegrass	<i>Achnatherum nelsonii</i>	ACNE9	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP	DDDD
Cusick bluegrass	<i>Poa cusickii</i>	POCU3	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
Dunehead sedge	<i>Carex phaeocephala</i>	CAPH2	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Fowl bluegrass	<i>Poa palustris</i>	POPA2	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Green needlegrass	<i>Nassella viridula</i>	NAV14	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Idaho fescue	<i>Festuca idahoensis</i>	FEID	DDPD	DDPD	DDPD	DDDD	DDDD	DDPD	DDDD
Indian ricegrass	<i>Achnatherum hymenoides</i>	ACHY	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
Inland saltgrass	<i>Distichlis spicata</i>	DISP	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Inland sedge	<i>Carex interior</i>	CAIN11	DDDD	DDDD	DDDD	UUUU	UUUU	DDDD	DDDD
Letterman needlegrass	<i>Achnatherum lettermanii</i>	ACLE9	UPUU	UPUU	UPUU	DDDD	DDDD	DDDD	DDDD
Little barley	<i>Hordeum pusillum</i>	HOPU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Mat muhly	<i>Muhlenbergia richardsonis</i>	MURI	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Montana wheatgrass	<i>Elymus albicans</i>	ELAL7	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Mountain brome	<i>Bromus marginatus</i>	BRMA4	PPPP	PPPP	DDDD	DDDD	NNNN	PPPP	DDDD
Mountain muhly	<i>Muhlenbergia montana</i>	MUMO	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Mutton bluegrass	<i>Poa fendleriana</i>	POFE	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
Nebraska sedge	<i>Carex nebrascensis</i>	CANE2	PPPP	PPPP	PPPP	PPPP	DDDD	PPPP	DDDD
Needleleaf sedge	<i>Carex duriuscula</i>	CADU6	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Nodding brome	<i>Bromus porteri</i>	BRPO2	PPPP	PPPP	DDDD	DDDD	UUUU	PPPP	DDDD
Northern reedgrass	<i>Calamagrostis stricta</i> ssp. <i>inexpansa</i>	CAST13	PPPP	DDDD	PPPP	DDDD	UUUU	PPPP	DDDD
Nuttall's alkalgrass	<i>Puccinellia nuttalliana</i>	PUNU2	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
One-spoke oatgrass	<i>Danthonia unispicata</i>	DAUN	DDDD	PPPP	DDDD	PPPP	DDDD	DDDD	DDDD
Oniongrass	<i>Melica bulbosa</i>	MEBU	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
Prairie junegrass	<i>Koeleria macrantha</i>	KOMA	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Pumpelly's brome	<i>Bromus inermis</i> ssp. <i>pumpellianus</i>	BRINP	PPPP	PPPP	DDDD	DDDD	UUUU	PPPP	DDDD
Redtop	<i>Agrostis stolonifera</i>	AGST2	UPDU	UPDU	UPDU	UPDU	UPDU	UPDU	UPDU
Reed canarygrass	<i>Phalaris arundinacea</i>	PHAR3	UDDU	UDDU	UDDU	UDDU	UDDU	UDDU	UDDU
Richardson's needlegrass	<i>Achnatherum richardsonii</i>	ACHRI8	PPPP	PPPP	DDDD	DDDD	DDDD	PPPP	DDDD
Sandberg bluegrass	<i>Poa secunda</i>	POSE	UDDU	UDDU	UDDU	UDDU	UDDU	UDDU	UDDU
Shortawn foxtail	<i>Alopecurus aequalis</i>	ALAE	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Slender wheatgrass	<i>Elymus trachycaulus</i>	ELTR7	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP	DDDD
Spikifescue	<i>Leucopoa kingii</i>	LEK12	PPPP	DDDD	PPPP	PPPP	DDDD	PPPP	DDDD
Spikerush	<i>Eleocharis</i> spp.	ELEOC	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Spike trisetum	<i>Trisetum spicatum</i>	TRSP2	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP	DDDD
Sun sedge	<i>Carex inops</i> ssp. <i>heliophila</i>	CAINH2	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP	DDDD
Tall mannagrass	<i>Glyceria elata</i> (syn. <i>G. striata</i>)	GLEL	DDDD	UUUU	DDDD	UUUU	UUUU	DDDD	DDDD
Thickspike wheatgrass	<i>Elymus lanceolatus</i> ssp. <i>lanceolatus</i>	ELMA7	DPDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Threadleaf sedge	<i>Carex filifolia</i>	CAFI	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Timber oatgrass	<i>Danthonia intermedia</i>	DAIN	DDDD	DDDD	DDDD	UUUU	UUUU	DDDD	DDDD
Tufted hairgrass	<i>Deschampsia caespitosa</i>	DECA18	PPPP	PPPP	PPPP	DDDD	DDDD	PPPP	DDDD
Water sedge	<i>Carex aquatilis</i> ssp. <i>aquatilis</i>	CACA3	UDDU	UDDU	UDDU	UDDU	UDDU	UDDU	UDDU
Western needlegrass	<i>Achnatherum occidentale</i>	ACOOQ	PPPP	PPPP	PPPP	DDDD	DDDD	PPPP	DDDD
Western wheatgrass	<i>Pascopyrum smithii</i>	PASM	DPDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
FORBS									
American licorice	<i>Glycyrrhiza lepidota</i>	GLLE3	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
American bistort	<i>Polygonum bistortoides</i>	POB16	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
American vetch	<i>Vicia americana</i>	VIAM	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP	DDDD
Arnica	<i>Arnica</i> spp.	ARNIC	UUUU	UUUU	UUUU	DDDD	UUUU	UUUU	UUUU
Arrowgrass	<i>Triglochin</i> spp.	TRIGL	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
Asters	<i>Eucephalus & Symphyotrichum</i> spp.	EUCEP2/SYMPH4	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Avens (prairie smoke)	<i>Geum</i> spp.	GEUM	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Balsamorhiza	<i>Balsamorhiza</i> spp.	BALSA	DPDD	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
Bedstraw	<i>Galium</i> spp.	GALIU	UUUU	DDDD	UUUU	DDDD	DDDD	DDDD	UUUU
Biscuitroot	<i>Lomatium</i> spp.	LOMAT	DDDD	DDDD	UUUU	DDDD	DDDD	DDDD	DDDD
Bitterroot	<i>Lewisia rediviva</i> ssp. <i>rediviva</i>	LERER	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Bluebell	<i>Mertensia</i> spp.	MERTE	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Blue-eyed grass	<i>Sisyrinchium</i> spp.	SISYR	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Buckwheat	<i>Eriogonum</i> spp.	ERIOG	UUUU	DDDD	UUUU	UUUU	UUUU	UUUU	UUUU
Buttercup	<i>Ranunculus</i> spp.	RANUN	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Cinquefoil (herbaceous)	<i>Potentilla</i> spp.	POTEN	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Clover	<i>Trifolium</i> spp.	TRIFO	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
Columbine	<i>Aquilegia</i> spp.	AQUIL	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Cow parsnip	<i>Hieracium maximum</i>	HERAC	PPPP	PPPP	PPPP	PPPP	PPPP	DDDD	NNNN
Daisy	<i>Townsendia</i> spp.	TOWNS	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Deathcamas	<i>Zigadenus venenosus</i>	ZIVE	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
Elephanthead lousewort	<i>Pedicularis groenlandica</i>	PEGR2	UUUU	DDDD	UUUU	DDDD	UUUU	UUUU	DDDD
Elk thistle	<i>Cirsium foliosum</i>	CIFO	UDDU	UUUU	UDDU	UDDU	UUUU	UDDU	UUUU
Evening-primrose	<i>Oenothera</i> spp.	OENOT	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Fireweed	<i>Chamerion angustifolium</i>	CHAN9	PPPP	DDDD	UUUU	PPPP	DDDD	PPPP	PPPP
Flax	<i>Linum</i> spp.	LINUM	UPDU	UPDU	UPDU	UPDU	UPDU	UPDU	UPDU
Fleabane	<i>Erigeron</i> spp.	ERIGE2	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Gentian	<i>Gentiana</i> spp.	GENTI	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Geranium	<i>Geranium</i> spp.	GERAN	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Gilia	<i>Gilia</i> spp.	GILIA	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Goldenaster	<i>Heterotheca</i> spp.	HETER8	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Goldenpea	<i>Thermopsis</i> spp.	THERM	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Goldenrod	<i>Solidago</i> spp.	SOLID	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Golden smoke	<i>Corydalis aurea</i>	COAU2	TTUU	TTUU	TTUU	TTUU	TTUU	TTUU	TTUU
Goldenweed, stemless	<i>Stenotus acutis</i> ssp. <i>acutis</i>	STACA	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Green gentian	<i>Frasera speciosa</i>	FRSP	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Groundsel	<i>Packera</i> spp.	PACKE	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Harebell (bellflower)	<i>Campanula</i> spp.	CAMPA	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Hawksbeard	<i>Crepis</i> spp.	CREPI	UUUU	PPPP	UUUU	DDDD	DDDD	UUUU	DDDD
Hawkweed	<i>Hieracium</i> spp.	HIERA	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Horsemint	<i>Agastache</i> spp.	AGAST	DDDD	DDDD	UUUU	DDDD	DDDD	DDDD	DDDD
Horsetail (scouring rush)	<i>Equisetum</i> spp.	EQUIS	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Iris (Rocky Mountain)	<i>Iris missouriensis</i>	IRMI	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU

Animal Preferences (Quarterly - 1,2,3,4) for commonly occurring plants in MLRA 43B, 15-19W

COMMON NAME/GROUP NAME	SCIENTIFIC NAME	SYMBOL	Cattle	Sheep	Horses	Mule Deer	Antelope	Elk	Moose
Larkspur (poisonous in spring before flowering)	Delphinium spp.	DELPH	DTDD	DTDD	DTDD	DTDD	DTDD	DTDD	DTDD
Little sunflower	Helianthus pumilus	HEPU3	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
Locoweed	Oxytropis spp.	LOXTR	TTUU	TTUU	TTUU	TTUU	TTUU	TTUU	TTUU
Lupine (may be poisonous after seedpots mature)	Lupinus spp.	LUPIN	DDTT	DDTT	DDTT	DDTT	DDTT	DDTT	DDTT
Meadow-rue	Thalictrum occidentale	THOC	DDDD	PPPP	DDDD	PPPP	PPPP	DDDD	PPPP
Milkvetch	Astragalus spp.	ASTRA	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Minerscandle	Cryptantha spp.	CRYPT	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Mint (wild)	Mentha arvensis	MEAR4	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Monkeyflower	Mimulus spp.	MIMUL	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Monkshood	Aconitum spp.	ACONI	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
Mountain dandelion	Agoseris spp.	AGOSE	DDDD	PPPP	DDDD	PPPP	DDDD	DDDD	DDDD
Mule-ears	Wyethia amplexicaulis	WYAM	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Mustard	Draba spp.	DRAB4	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Nailwort	Paronychia spp.	PARON	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Onion (wild)	Allium spp.	ALLI4	DPDD	PPPP	DPDD	DPDD	PPPP	DPDD	DPDD
Oregon grape	Mahonia repens	MARE11	UUUU	DDDD	UUUU	PPPP	DDDD	DDDD	DDDD
Owl's-clover	Orthocarpus spp.	ORTHO	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Paintbrush	Castilleja spp.	CAST	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Peavine	Lathyrus spp.	LATHY	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Penstemon	Penstemon spp.	PENST	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
Phacelia	Phacelia spp.	PHACE	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Phlox	Phlox spp.	PHLOX	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Plantain	Plantago spp.	PLANT	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Primrose	Primula spp.	PRIMU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Pussytoes	Antennaria spp.	ANTEN	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Ragwort (groundsel)	Senecio spp.	SENEC	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
Sandwort	Arenaria spp.	ARENA	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Shooting star	Dodecatheon spp.	DODEC	DDDD	DDDD	UUUU	DDDD	UUUU	UUUU	UUUU
Starwort	Stellaria spp.	STELL	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Sego lily	Calochortus nuttallii	CANU3	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Smartweed (knotweed)	Polygonum spp.	POLYG4	UUUU	UUUU	UUUU	DDDD	UUUU	UUUU	UUUU
Sneezeweed, orange (rubberweed)	Hymenoxys spp.	HYMEN7	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
Springbeauty	Claytonia spp.	CLAYT	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Stinging nettle	Urtica dioica	URDI	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Stonecrop	Sedum spp.	SEDUM	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Stoneseed	Lithospermum spp.	LITHO3	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Sunflower	Helianthus spp.	HELIA3	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
Sweetroot	Osmorhiza spp.	OSMOR	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Toadflax	Comandra umbellata	COUMP	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Valerian (tobacco root)	Valeriana spp.	VALER	DDDD	PPPP	DDDD	DDDD	DDDD	DDDD	DDDD
Violet	Viola spp.	VIOLA	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Water hemlock (spotted)	Cicuta maculata var. angustifolia	CIMAA	TTUU	TTUU	TTUU	TTUU	TTUU	TTUU	TTUU
Waterleaf	Hydrophyllum spp.	HYDR04	DDDD	DDDD	DDDD	PPPP	DDDD	DDDD	DDDD
Western coneflower	Rudbeckia occidentalis	RUOC2	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Wild strawberry (false strawberry)	Fragaria vesca	FRVE	DDDD	PPPP	DDDD	PPPP	PPPP	DDDD	DDDD
Yarrow (common & western)	Achillea millefolium	ACMI2	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Yellowbell	Fritillaria pudica	FRPU2	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Yellow sneezeweed	Helenium autumnale	HEAU	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
TREES, SHRUBS & HALF-SHRUBS									
Alpine laurel (bog kalmia)	Kalmia microphylla	KAMI	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
Antelope bitterbrush	Purshia tridentata	PUTR2	PPPP	PPPP	DDDD	PPPP	PPPP	PPPP	PPPP
Aspen	Populus tremuloides	POTR5	DDDD	DDDD	DDDD	PPPP	DDDD	PPPP	PPPP
Basin big sagebrush	Artemisia tridentata ssp. tridentata	ARTR1	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Big sagebrush	Artemisia tridentata	ARTR2	UUUU	DDDD	UUUU	PPPP	PPPP	DDDD	DDDD
Black sagebrush	Artemisia nova	ARN04	DDDD	PPPP	UUUU	DDDD	DDDD	DDDD	DDDD
Chokecherry (toxic in large amounts)	Prunus virginiana	PRVI	DTDD	DTDD	DDDD	PPPP	UUUU	DDDD	PPPP
Current	Ribes spp.	RIBES	DDDD	DDDD	DDDD	PPPP	UUUU	DDDD	DDDD
Dogwood	Cornus spp.	CORNU	DDDD	DPDD	DDDD	DPDD	DDDD	DPDD	DPDD
Early (alkali) sage	Artemisia arbuscula ssp. longiloba	ARAL	UUUU	UUUU	UUUU	PPPP	PPPP	UUUU	UUUU
Elderberry	Sambucus spp.	SAMBU	DDDD	DDDD	UUUU	PPPP	UUUU	DDDD	DDDD
Fringed sagewort	Artemisia frigida	ARFR4	UUUU	UUUU	UUUU	UUUU	DDDD	UUUU	UUUU
Goldenweed, shrubby	Ericameria suffruticosa	ERSU13	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Greasewood (toxic in large amounts)	Sarcobatus vermiculatus	SAVE4	UUUU	DDDD	UUUU	DDDD	DDDD	UUUU	UUUU
Green (low) rabbitbrush	Chrysothamnus viscidiflorus	CHV18	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Juniper, common	Juniperus communis var. depressa	JUCOD	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Juniper, Rocky Mountain	Juniperus scopulorum	JUSC2	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Limber pine	Pinus flexilis	PIFL2	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
Low sagebrush	Artemisia arbuscula ssp. arbuscula	ARAR8	UUUU	DDDD	UUUU	DDDD	DDDD	UUUU	UUUU
Mountain big sagebrush	Artemisia tridentata ssp. vaseyana	ARTRV	UUUU	DDDD	UUUU	DDDD	DDDD	UUUU	UUUU
Mountain mahogany	Cercocarpus spp.	CERCO	PPPP	PPPP	DDDD	PPPP	UUUU	PPPP	PPPP
Raspberry	Rubus idaeus	RUID	UUUU	UUUU	UUUU	DDDD	UUUU	UUUU	DDDD
Rubber rabbitbrush	Ericameria nauseosa	ERNA10	UUUU	PPPP	UUUU	DDDD	PPPP	DDDD	DDDD
Serviceberry	Amelanchier alnifolia	AMAL2	DDDD	PPPP	UUUU	PPPP	DDDD	DDDD	DDDD
Shrubby cinquefoil	Dasiphora floribunda	DAFL3	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Silverberry	Elaeagnus commutata	ELCO	UUUU	DDDD	UUUU	UUUU	DDDD	UUUU	PPPP
Silver sagebrush	Artemisia cana	ARCA13	UUUU	DDDD	UUUU	PPPP	PPPP	DDDD	DDDD
Snowberry (western)	Symphoricarpos occidentalis	SYOC	UUUU	UUUU	UUUU	DDDD	UUUU	UUUU	UUUU
Snowbrush ceanothus	Ceanothus velutinus	CEVE	UUUU	DDDD	UUUU	DDDD	UUUU	DDDD	UUUU
Spiked big sagebrush	Artemisia tridentata ssp. spiciformis	ARTRS2	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Thimbleberry	Rubus parviflorus	RUPA	UUUU	DDDD	UUUU	UUUU	UUUU	UUUU	DPDD
Three-tip sagebrush	Artemisia tripartita	ARTR4	UUUU	DDDD	UUUU	UUUU	DDDD	UUUU	DDDD
True mountainmahogany	Cercocarpus montanus	CEMO2	PPPP	PPPP	DDDD	PPPP	UUUU	PPPP	PPPP
Water birch	Betula occidentalis	BEOC2	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Wild rose	Rosa woodsii var. woodsii	ROWOW	DDDD	DDDD	UUUU	DDDD	DDDD	DDDD	DDDD
Willow, Bebb's	Salix bebbiana	SABE2	DDDD	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP
Willow, Blueberry	Salix myrtillofolia	SAMY	DDDD	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP
Willow, Booth's	Salix boothii	SABO2	DDDD	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP
Willow, coyote (sandbar)	Salix exigua	SAEX	PPPP	PPPP	DDDD	PPPP	UUUU	PPPP	PPPP
Willow, Drummond's	Salix drummondiana	SADR	DDDD	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP
Willow, grayleaf	Salix glauca	SAGL	DDDD	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP
Willow, Geyer's	Salix geyeriana	SAGE2	DDDD	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP
Willow, Lemmon's	Salix lemmonii	SALE	DDDD	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP
Willow, peachleaf	Salix amygdaloides	SAAM2	PPPP	PPPP	DDDD	PPPP	UUUU	PPPP	PPPP
Willow, planeleaf (diamondleaf)	Salix planifolia	SAPL2	DDDD	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP
Willow, pussy	Salix discolor	SADI	DDDD	DDDD	DDDD	DDDD	UUUU	DDDD	DDDD
Willow, Scouler's	Salix scouleriana	SASC	PPPP	PPPP	DDDD	PPPP	DDDD	PPPP	PPPP
Willow, short-fruit (barrenground)	Salix brachycarpa	SABR	DDDD	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP
Willow, tweedy	Salix tweedyi	SATW	DDDD	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP
Willow, whiplash	Salix lucida ssp. Caudata	SALUC	DDDD	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP
Willow, interior	Salix interior	SAIN3	DDDD	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP
Willow, wolf	Salix woffii	SAWO	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	DDDD
Willow, yellow	Salix lutea	SALU2	PPPP	PPPP	DDDD	PPPP	UUUU	PPPP	PPPP
Wyoming big sagebrush	Artemisia tridentata ssp. wyomingensis	ARTRW8	UUUU	DDDD	UUUU	PPPP	PPPP	UUUU	UUUU

N = not used; U = undesirable; D = desirable; P = preferred; T = toxic

Animal Community – Grazing Interpretations

The following table lists suggested stocking rates for cattle under continuous season-long grazing under normal growing conditions. These are conservative estimates that should be used only as guidelines in the initial stages of the conservation planning process. Often, the current plant composition does not entirely match any particular plant community (as described in this ecological site description). Because of this, a field visit is recommended, in all cases, to document plant composition and production. More precise carrying capacity estimates should eventually be calculated using this information along with animal preference data, particularly when grazers other than cattle are involved. Under more intensive grazing management, improved harvest efficiencies can result in an increased carrying capacity. If distribution problems occur, stocking rates must be reduced to maintain plant health and vigor.

Plant Community	Production (lb./ac)	Carrying Capacity* (AUM/ac)
Wheatgrass/Serviceberry (HCPC)	1200-2200	.55
Mountain Big Sage/Western Needlegrass	1000-2000	.45
Mountain Big Sage/ Rhizomatous Wheatgrass	400-1200	.25
Kentucky Bluegrass/Rhizomatous Wheatgrass	200-800	.1

* - Continuous, season-long grazing by cattle under average growing conditions.

Grazing by domestic livestock is one of the major income-producing industries in the area. Rangeland in this area may provide yearlong forage for cattle, sheep, or horses. During the dormant period, the forage for livestock use needs to be supplemented with protein because the quality does not meet minimum livestock requirements.

Hydrology Functions

Water is the principal factor limiting forage production on this site. This site is dominated by soils in hydrologic group C, with localized areas in hydrologic group D. Infiltration ranges from slow to moderately slow. Runoff potential for this site varies from moderate to high depending on soil hydrologic group and ground cover. In many cases, areas with greater than 75% ground cover have the greatest potential for high infiltration and lower runoff. Areas where ground cover is less than 50% have the greatest potential to have reduced infiltration and higher runoff (refer to Part 630, NRCS National Engineering Handbook for detailed hydrologic information).

Rills and gullies should not typically be present. Water flow patterns should be barely distinguishable if at all present. Pedestals are only slightly present in association with bunchgrasses. Litter typically falls in place, and signs of movement are not common. Chemical and physical crusts are rare to non-existent. Cryptogamic crusts are present, but only cover 1-2% of the soil surface.

Recreational Uses

This site provides hunting opportunities for upland game species. The wide variety of plants which bloom from spring until fall have an esthetic value that appeals to visitors.

Wood Products

No appreciable wood products are present on the site.

Other Products

Supporting Information

Associated Sites

Loamy	R043BY222WY
Clayey Overflow	R043BY206WY

Similar Sites

R034AY204WY – Clayey (Cy) 10-14W has lower production and no mountain brome or spike fescue.
R043BY222WY – Loamy (Ly) 15-19W has coarser soil textures and more diverse grass species.

Inventory Data References (narrative)

Information presented here has been derived from NRCS clipping data and other inventory data. Field observations from range trained personnel were also used. Those involved in developing this site include: Bill Christensen, Range Management Specialist, NRCS; Karen Clause, Range Management Specialist, NRCS; and Everett Bainter, Range Management Specialist, NRCS. Other sources used as references include: USDA NRCS Water and Climate Center, USDA NRCS National Range and Pasture Handbook, and USDA NRCS Soil Surveys from various counties.

Inventory Data References

<u>Data Source</u>	<u>Number of Records</u>	<u>Sample Period</u>	<u>State</u>	<u>County</u>
SCS-RANGE-417	58	1966-1986	WY	Lincoln & others

State Correlation

Type Locality

Field Offices

Lyman, Cokeville, Afton, Jackson, Pinedale

Relationship to Other Established Classifications

Other References

Site Description Approval

State Range Management Specialist

Date